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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/668,296	09/25/2000	Makoto Hirahara	HIRAHARA=1	1273

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EXAMINER

SHAFFER, ERIC T.

ART UNIT PAPER NUMBER

3623

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/668,296

Applicant(s)

HIRAHARA ET AL.

Examiner

Eric T. Shaffer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The following is an initial Office Action upon examination of the above-identified application on the merits. Claims 1 - 26 are pending in this application.

Claim Rejections - 35 USC § 101

2. Claims 1 – 22, 25 and 26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e. abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, invoke, use, or advance the technological arts.

In the present case, the method claims of visiting plan generation method that receives inputting of information, does not specifically use a computer or computer operable medium. Specifically, claims 1 – 22, 25 and 26 do not affect, effect, or are affected by technology, and thus do not recite statutory subject matter.

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Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claims 1 – 22, 25 and 26 are deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 - 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Edgar et al (US 5,848,395) in view of Ralston et al (US 6,389,454).

As per claims 1 – 5 and 13 Edgar teaches a visiting plan generation method of generating a visiting plan for a plurality of groups to visit a plurality of destinations on a task-sharing basis comprising the steps of:

performing optimum formation of said plural groups, optimum destination assignment to each of said plural groups, and optimum planning for each of said plural groups by using a cost function for evaluating said visiting plan when said plural groups visit said plural destinations on a task-sharing basis (column 2, lines 54 – 56, “the scheduler then uses the optimized sequences of jobs output from the optimization process”);

performing new assignment of said unassigned destination and visiting plan re-formation therewith using a cost function for evaluating said visiting plan (column 2, lines

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22 - 24, “if a customer with a particular region requests an appointment, the appointment server searches the routes to find one”);

carrying out at least one of processing operations including minimization processing for minimizing a maximum cost value in said plural groups, minimization processing for minimizing an average cost value in said plural groups, and equalization processing for equalizing cost values in said plural groups (column 3, lines 19 - 22, “if the evaluated cost is better i.e. less than the current best, the changed sequence is saved as the new current best sequence, and its cost is saved as the new current cost”);

Edgar et al does not specifically teach the input of information on those persons whose activities are being scheduled, does not teach inputting information on unassigned users or the re-assignment of persons who have already been assigned.

Ralston et al teaches inputting information on persons in said plural groups, information on members of each of said plural groups and re-assignment:

information on said plural destinations and information on unassigned destinations (column 3, lines 11 - 12, “a receiver for receiving a packet of client information from a client”);

as required, performing re-assignment of already assigned destinations and/or re-arrangement of said plural groups, and visiting plan re-formation therewith (column 6, lines 45 - 50, “should the client wish to reschedule the appointment, the scheduling server will obtain from

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the client a new set of client appointment preference data and will, in the same manner described above, generate a new set of appointment candidates”);

It would have been obvious to one of ordinary skill in the art of scheduling to combine the scheduling, optimization and minimum/maximum cost valuation functionality of the Edgar et al system with the group attribute identification, appointment modification and unassigned user management aspects of the Ralston et al invention because the personal and group attribute data would present a basis on which the cost valuation could be effectively and accurately based. The current Edgar et al system does not allow for or consider the effects of modifying appointments on the optimization model. Incorporating the appointment modification aspects of the Ralston et al system would increase the efficiency of the optimization model by permitting the inclusion of appointment modification and increasing the accuracy of the minimization/maximization cost valuation and of the optimization model.

5. As per claim 6, Ralston et al teaches a visiting plan generation method wherein said information on said destinations contains locations of said destinations (column 3, line 30, “the identity of the available facility”), and as required, said information on said destinations also contains conditions of tasks to be performed at said destinations (column 3, 29 – 30, “any limitations on the scheduling of the appointment”).

6. As per claims 7 and 8, Ralston et al teaches visiting plan generation method as claimed in claim 5 wherein, in case that information on any of said plural groups contains attributes of said group, said attributes being invariable or variable (column 3, line 13 – 14, “the client information including personal data”), and group constraints for constraining members

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belonging to said group, and that said group is a variable-member group, data of initial group formation is also indicated (column 3, lines 15 - 18, “a set of service constraints in order to determine any limitations on the scheduling of the appointment”).

7. As per claim 9, Ralston et al, teaches a visiting plan generation method as claimed in claim wherein information on any member contains a mobile capability of said member and a working capability thereof (column 3, lines 20 – 22, “appointment candidates based upon an analysis of the client information and the appointment scheduling limitation”).

8. As per claims 10 and 11, Edgar et al teaches a visiting plan generation method wherein said cost function contains a coefficient inherent in each group and/or a threshold inherent therein (column 3, lines 12 - 16, “this cost function may include factors such as time taken to travel between jobs, penalties, for breaking an appointment, overtime working for operatives and achieving suitable match between the operatives’ skills”).

9. As per claims 12, 14 and 15, Edgar et al teaches a visiting plan generation method wherein, at the time of new assignment or re-assignment of an unassigned destination and visiting plan re-formation therewith, group selection is made for said unassigned destination, tentative assignment of said unassigned destination, re-formation of a tentative visiting plan, and tentative cost calculation are performed for each group, said unassigned destination is formally assigned to a group having a minimum tentative cost, and said tentative visiting plan is adopted formally (column 3, lines 17 – 20, “if the evaluated cost is better i.e. less than the current best, the changed sequence is saved as the new current best sequence, and the cost is saved as the new current best cost”).

10. As per claims 16 – 18 and 20, Edgar et al teaches a visiting plan generation method:

wherein, in variable-member group re-arrangement and visiting plaza, reformation therewith, a variable-member group in which the number of members is smaller than the maximum number of accommodable members is selected, unassigned members are elected within a range that group constraints are satisfied, each of said members thus selected is tentatively assigned to said selected variable-member group, and tentative visiting plan reformation and tentative cost calculation are performed (column 2, lines 62 - 65, “attempt to optimize the scheduling of jobs with each sequence. This employs a simulated temperature which is initially set a high value, then gradually reduced”, in which the reduced value is reduced from the maximum number of accommodable members in order to achieve an optimum number of members);

wherein, if a minimum tentative cost is lower than an original cost of said selected variable-member group, tentative conditions that have caused said minimum tentative cost is adopted formally, (column 3, lines 19 - 22, “if the evaluated cost is better i.e. less than the current best, the changes sequence is saved as the new current best sequence, and the cost is saved as the new current best cost”).

11. As per claim 19, Edgar et al teaches a visiting plan generation method as claimed in claim 1, in variable-member group selection, a variable-member group having a maximum cost at the current point of time is selected from all the variable-member groups (column 3, lines 23 - 25, “if on the other hand the evaluated cost is greater than or equal to the current best value, the scheduler makes a random choice as to whether or not to accept the new sequence”).

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12. As per claims 21 - 22, Edgar et al teaches a visiting plan generation method wherein, in selection of a plurality of variable-member group having a maximum cost at the current point of time is selected from all the variable-member groups (column 3, lines 22 - 23, "the evaluated cost is greater than or equal to the current best value") and a minimum cost at the current point of time is selected from all the variable-cost groups (column 3, lines 19 - 20, "the evaluated cost is better i.e. less than the current best").

13. As per claim 23, Edgar teaches visiting plan generation system, comprising:
new-assignment means for newly assigning an unassigned destination (column 2, lines 47 - 49, "the scheduler then takes the set of jobs to be scheduled, and allocates jobs to resources for specific times");

cost calculation means for calculating a visiting plan cost for, each group (column 3, lines 12 - 13, "the changed sequence is then evaluated to determine a cost function");

Edgar does not teach receiving various kinds of information, memory usage, or reassigning appointments.

Ralston however, does in fact teach receiving various kinds of information, memory usage, or reassigning appointments, such as:

input means for receiving various kinds of necessary information for visiting plan generation (column 3, lines 10 - 11, "a receiver for receiving a packet of client information");

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state memory means for memorizing a state at a predetermined point of time and an optimum state in preceding visiting plan conditions (column 3, line 50, “a data processing system”, wherein a data processing system must contain memory to function);

re-assignment means for re-assigning an already assigned destination (column 3, lines 36 - 38, “the method further includes the step of allowing appointments to be rescheduled or cancelled”);

group re-arrangement means for re-arranging groups; plan re-formation means for re-forming a visiting plan for each group (column 3, lines 39 - 40, “an appointment modifier for rescheduling or canceling appointments”);

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the personnel / resource allocation and cost calculation features of the Edgar device with the memory usage and appointment reassignment features of the Ralston device in order to improve the operational efficiency by allowing for the optimal scheduling of appointments. Allowing appointments to be rescheduled based on an optimal order derived by the minimum and maximum cost calculations would enable a more efficient use of resources to be implemented since this would allow personnel to be shifted to appointments that would be a higher and better use of their respective skill sets. Such an invention would also provide a benefit to customers by allowing them to cancel previously scheduled appointments and allowing the company using said scheduling device to reclaim and reuse the time slots vacated by the rescheduling customers.

14. As per claim 24, Ralston et al teaches visiting plan generation system wherein said input means is so structured as to receive at least information on destinations, information on

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groups, and information on members (column 3, lines 13 - 14, “the client information including personal data”).

15. As per claim 25, a visiting plan generation method as claimed in claim 6, wherein, in case that information on any of said plural groups contains attributes of said group, said attributes being invariable, and group said attributes being invariable or variable, and group constraints for constraining members belonging to said group, and that said group is a variable-member group, data of initial group formation is also indicated (column 3, lines 12 - 13, “the client information including personal data”).

16. As per claim 26, a visiting plan generation method as claimed in claim 2, wherein, if an unassigned destination is found, new assignment of said unassigned destination and visiting plan reformation therewith are performed, and as required, reassignment of already assigned destinations and/or rearrangement of said plural groups, and visiting plan reformation therewith are performed (column 2, lines 22 - 24, “if a customer within a particular region requests an appointment, the appointment server searches the routes to find one which visits the region”).

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Conclusion

17. No claims were allowed and all claims were rejected.
18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hall (US 6,026,375) – Order processing and scheduling
Frid-Nielsen et al. (5,778,346) – Appointment relocation
DeLorme et al. (5,948,040) – Travel reservation planning
Jamison et al. (US 6,401,032) – Touring planner
Conmy et al. (US 6,101,480) – Electronic calendar
Matoba et al. (US 6,392,669) – Schedule management
Beckhardt et al. (US 6,085,166) – Electronic calendar
Babayev et al. (US 5,615,121) – Service scheduling
Harris et al. (US 6,438,704) – Scheduling system
Okawa (US 5,933,810) – Reservation management
Cummings et al. (US 6,345,260) – Scheduling interface
"Using Microsoft Project" Microsoft Press, 1994 – Project scheduling system

19. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric Shaffer whose telephone number is (703) 305-5283. The Examiner can normally be reached on Monday-Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:
Commissioner of Patents and Trademarks
Washington D.C. 20231

Or faxed to:

(703) 746-7238 [After Final communications, labeled "Box AF"]
(703) 746-7239 [Official communications]
(703) 706-9124 [Informal/Draft communications, labeled
"PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 7th floor receptionist.

ETS

September 30, 2003

Susanna Diaz
Susanna Diaz
Primary Examiner
A.U. 3623